

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO. : 7,409,266 B2
APPLICATION NO. : 10/739453
DATED : August 5, 2008
INVENTOR(S) : Keita Hara et al.

Page 1 of 6

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Col. 44 line 25 thru col. 46 line 53

Delete Claims 1-10 as printed in the above-identified patent document and substitute the following Claims 1-10 therefor:

1. A group robot system comprising a plurality of sensing robots,
and a control apparatus controlling (i) an operation of each of said plurality of sensing robots, and (ii) a definition of areas in which each of said plurality of sensing robots are respectively located relative to said control apparatus,
wherein said control apparatus responds to a detection of
an object by one of said plurality of sensing robots by providing
a control such that each of said plurality of sensing robots,
other than said sensing robot that has detected said object,
moves outside of the respective area relative to said control
apparatus in which it was located prior to the detection of the
object,

wherein each of said plurality of sensing robots is equipped with the
same sensor function and a predetermined sensor function
level relative to the others of said plurality of sensing robots,
said control apparatus responds to a detection of an object by
one of said plurality of sensing robots (a) by providing a control
such that another of said plurality of sensing robots that is
equipped with a function level differing from the function level of
said one of said sensing robots that detected said object
conducts a further search for said object, and (b) by providing a
control such that a sensing robot a sensing robot other than
said one of said sensing robots that detected the object and
said sensing robot conducting said further search moves
outside of a respective area relative to said control apparatus in
which it was located prior to the detection of the object.

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO. : 7,409,266 B2
APPLICATION NO. : 10/739453
DATED : August 5, 2008
INVENTOR(S) : Keita Hara et al.

Page 2 of 6

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

2. The group robot system according to claim 1, wherein
said control apparatus enables the predetermined sensor function level of a selected one of the plurality of sensing robots, and when said said selected one of said plurality of sensing robots having the enabled function level detects an object, said control apparatus enables the predetermined function level of another of said plurality of sensing robots that differs from the function level of said one of said plurality of sensing robots that detected the object so as to provide a control such that said another of said plurality of sensing robots conducts a further search for said object.
3. The group robot system according to claim 1, wherein
said relative sensor function levels of said plurality of sensing robots is determined by any of a sensing resolution, a sensor type, and a processing method of sensor information.
4. The group robot system according to claim 1, wherein
said plurality of sensing robots and said control apparatus conduct communication in a hierarchical manner wherein said control apparatus has the highest level of hierarchy, and
said control apparatus responds to a detection of an object by
one of said plurality of sensing robots providing control such that said one of said plurality of sensing robots that has detected the object and a another of said plurality of sensing robots located at a hierarchical communication position between said one of said plurality of sensing robots and said control apparatus that relays communication when hierarchical communication is conducted from said one of said plurality of sensing robots to said control apparatus moves outside a respective area relative to said control apparatus in which it was located prior to the detection of the object.

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO. : 7,409,266 B2
APPLICATION NO. : 10/739453
DATED : August 5, 2008
INVENTOR(S) : Keita Hara et al.

Page 3 of 6

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

5. The group robot system according to claim 1, wherein
said control apparatus includes a pheromone robot controlling travel of at least one of said sensing robots,
and wherein said pheromone robot moves, when one of
said plurality of sensing robots detects an object, to a
neighborhood of said object.
6. The group robot system according to claim 1, wherein
said control apparatus includes a pheromone robot controlling travel of at least one of said plurality of sensing robots,
said pheromone robot being responsive to a detection of an
object by one of said plurality of sensing robots so as to
provide a control such that another of said plurality of sensing
robots different from the one of said plurality of sensing robots
that has detected said object moves to a neighborhood of said
pheromone robot.
7. The group robot system according to claim 1, wherein at least one of
said sensing robots is capable of fluttering flight by fluttering motion.
8. A sensing robot capable of fluttering flight included
in a group robot system comprising a plurality of sensing robots and a control
apparatus controlling (i) an operation of each of said plurality of sensing robots,
and (ii) a definition of areas in which of each of said plurality of sensing robots
are respectively located relative to said control apparatus, wherein said control
apparatus responds to detection of an object by one of said plurality of sensing
robots so as to provide a control such that another of said plurality of sensing
robots moves outside the area relative to said control apparatus in which it was
located prior to the detection of the object,

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO. : 7,409,266 B2
APPLICATION NO. : 10/739453
DATED : August 5, 2008
INVENTOR(S) : Keita Hara et al.

Page 4 of 6

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

wherein each of said plurality of sensing robots is equipped with the same sensor function and a predetermined sensor function level relative to the others of said plurality of sensing robots, said control apparatus responds to a detection of an object by one of said plurality of sensing robots (a) by providing a control such that another of said plurality of sensing robots that is equipped with a function level differing from the function level of said one of said sensing robots that detected said object conducts a further search for said object, and (b) by providing a control such that a sensing robot a sensing robot other than said one of said sensing robots that detected the object and said sensing robot conducting said further search moves outside of a respective area relative to said control apparatus in which it was located prior to the detection of the object.

9. A base station included in a group robot system

comprising a plurality of sensing robots including at least one sensing robot capable of fluttering flight through a fluttering motion and a control apparatus controlling (i) an operation of each of said plurality of sensing robots, and (ii) a definition of areas in which each of said plurality of sensing robots are respectively located relative to said control apparatus,

wherein said control apparatus responds to a detection of an object by one of said plurality of sensing robots by providing a control such that each of said plurality of sensing robots, other than said sensing robot that has detected said object, moves outside of the respective area relative to said control apparatus in which it was located prior to the detection of the object, and

wherein said base station corresponds to said control apparatus,

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO. : 7,409,266 B2
APPLICATION NO. : 10/739453
DATED : August 5, 2008
INVENTOR(S) : Keita Hara et al.

Page 5 of 6

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

wherein each of said plurality of sensing robots is equipped with the same sensor function and a predetermined sensor function level relative to the others of said plurality of sensing robots, said control apparatus responds to a detection of an object by one of said plurality of sensing robots (a) by providing a control such that another of said plurality of sensing robots that is equipped with a function level differing from the function level of said one of said sensing robots that detected said object conducts a further search for said object, and (b) by providing a control such that a sensing robot a sensing robot other than said one of said sensing robots that detected the object and said sensing robot conducting said further search moves outside of a respective area relative to said control apparatus in which it was located prior to the detection of the object.

10. A pheromone robot included in a group robot system comprising a plurality of sensing robots including at least one sensing robot capable of fluttering flight through a fluttering motion and a control apparatus controlling (i) an operation of each of said plurality of sensing robots, and (ii) a definition of areas in which of each of said plurality of sensing robots are respectively located relative to said control apparatus,
- wherein said control apparatus responds to a detection of an object by one of said plurality of sensing robots by providing a control such that each of said plurality of sensing robots, other than said sensing robot that has detected said object, moves outside of the respective area relative to said control apparatus in which it was located prior to the detection of the object, and,
- wherein said pheromone robot controls travel of at least one of said plurality of sensing robots capable of fluttering flight through a fluttering motion.

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO. : 7,409,266 B2
APPLICATION NO. : 10/739453
DATED : August 5, 2008
INVENTOR(S) : Keita Hara et al.


Page 6 of 6

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

wherein each of said plurality of sensing robots is equipped with the same sensor function and a predetermined sensor function level relative to the others of said plurality of sensing robots, said control apparatus responds to a detection of an object by one of said plurality of sensing robots (a) by providing a control such that another of said plurality of sensing robots that is equipped with a function level differing from the function level of said one of said sensing robots that detected said object conducts a further search for said object, and (b) by providing a control such that a sensing robot a sensing robot other than said one of said sensing robots that detected the object and said sensing robot conducting said further search moves outside of a respective area relative to said control apparatus in which it was located prior to the detection of the object.

Signed and Sealed this

Sixth Day of January, 2009

A handwritten signature in black ink, appearing to read "Jon W. Dudas". The signature is stylized with a large, looped initial "J" and a cursive "Dudas".

JON W. DUDAS
Director of the United States Patent and Trademark Office